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10061-1

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of	:	A. W. Chester et al.
Serial No.	:	
Filed	:	Concurrently
For	:	Gasoline Sulfur Reduction in Fluid Catalytic Cracking
Group Art Unit	:	-
Examiner	:	-

Information Disclosure Statement

Fairfax, Virginia 22037

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir,

The references identified in the attached PTO Form 1449 are relevant to the examination of this application.

U.S. Patents Nos. 4,963,520; 4,957,892; 4,957,718; 4,790,982 describe the removal of sulfur oxides from FCC regenerator stack gases using magnesium-aluminum spinels as additives to the circulating catalyst inventory in the FCCU.

Krishna et al, *Additives Improve FCC Process*, Hydrocarbon Processing, November 1991, pages 59-66, refers to the use of alumina-based catalyst additives for the reduction of sulfur in FCC regenerator stack gases.

U.S. Patents 5,376,608 and 5,525,210 (Wormsbecher) describe a catalyst additive for the reduction of sulfur levels in the liquid cracking products which is an alumina-supported Lewis acid.

U.S. Patent No. 4,976,847 (Maxwell) describes a process for catalytic cracking a hydrocarbon feedstock with the objective of increasing olefin production, using a catalyst composition comprising two zeolites of differing pore size, one of which contains a metal with hydrogenation activity (column 2, lines 32-47). There is no suggestion in the patent that any desulfurization activity is achieved.

Canadian Patent No. 1,117,511 (Albers) describes a catalytic cracking composition of a rare-earth exchanged aluminosilicate zeolite and a minor amount of platinum or palladium. The catalyst is stated to be capable of being used to effectively control the sulfur oxide emissions from commercial catalytic cracking units.

EP 461 851 A2 (Araya) discloses a zeolite compositin useful in hydrocarbon cracking which comprises zeolite Y with various metals such as zinc and iron, to improve activity and vanadium passivation. There is no suggestion that sulfur reduction may be achieved.

Wormsbecher et al, *Vanadium Poisoning of Cracking Catalysts: Mechanism of Poisoning and Design of Vanadium Tolerant Catalyst System*, J. Catalysis 100, 130-137 (1986) describes the effect of vanadium on zeolite catalysts used in fluid catalytic cracking.

Respectfully submitted,

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Serial No. TO BE ASSIGNED	Filing Date TO BE ASSIGNED	Examiner TO BE ASSIGNED	Group Art Unit TO BE ASSIGNED

Invention: **GASOLINE SULFUR REDUCTION IN FLUID CATALYTIC CRACKING**

I hereby certify that this **NEW PATENT APPLICATION/IDS**
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